

US EPA ARCHIVE DOCUMENT

2/18/93

MEMORANDUM

SUBJECT: Review of Benomyl Poisoning Incidents, Cases  
Submitted by Dupont and Puerto Rico law suit

TO: Kate Bouve, 6a2 Officer  
Special Projects and Coordination Staff  
Program Management and Support Division (H7502C)

FROM: Jerome Blondell, Health Statistician  
Special Review and Registration Section  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

THRU: Steve Knott, Acting Head  
Special Review and Registration Section  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

Larry Dorsey, Acting Chief  
Occupational and Residential Exposure Branch  
Health Effects Division (H7509C)

Please find below, the OREB review of:

DP Barcode: 184750 and 187412 and D183254

Pesticide Chemical Code: 099101

EPA Reg. No.: various

EPA MRID No.: 422364-01 and 426327-01 and 426327-02

I. INTRODUCTION

This memorandum updates and completes the review of poisoning data submitted to the agency related to use of Benlate 50 DF. Five reports, three by Dupont and two law suits are summarized in this review of symptoms and poisonings allegedly related to benomyl exposure. An earlier review of all types of benomyl poisoning, dated October 14, 1992, has already been

forwarded to you.

## II. CONCLUSION

The overwhelming majority of poisoning data submitted was unaccompanied by any medical documentation. None of the cases reported any quantitative information about their exposures to benomyl, only that it had been used. Given the lack of substantiating information, this review has been limited to a review of the symptoms reported and the dates of reporting. The Puerto Rico law suit (item 5 below) suggests strong support for the findings of the Florida Department of Health and Rehabilitative Services as to the occurrence and type of symptoms reported by greenhouse and nursery workers.

The Florida group was exclusively growers and owners of nurseries and greenhouses many of whom lost their livelihood as a result of plant destruction. Therefore, there is a strong suspicion that many of their symptoms may be related to stress. The Puerto Rico group, on the other hand, appears to be predominately workers who would not be subject to this kind of stress. Therefore, the symptoms shared in common by Puerto Rico and Florida are more likely to have been related to a job-related exposure, such as benomyl. This assumes that some other unknown factor was not responsible for the symptoms in the 24 Puerto Rican workers and that they reported their symptoms accurately without being influenced by symptoms they may of heard about in Florida.

Symptoms held in common by more than 20% of both the Puerto Rico and Florida respondents include headaches, pain in the joints, difficulty with breathing, numbness or pain in the extremities, fatigue, rashes, loss of memory, and unusual bleeding (e.g. nose bleeds or bleeding of gums).

## III. DETAILED CONSIDERATIONS

### Three Dupont reports

#### 1. March 9, 1992 letter to Susan Lewis from Janice Sharp

A total of 7 incidents are reported associated with crop damage claims and 7 incidents are reported that are not related to claims. A wide range of problems with very little detail are reported in these 14 incidents involving 37 people and 3 or more dogs. 21 of the people experienced skin or eye irritation of the type that would be expected from benomyl exposure.

Two incidents involving 5 people reported health problems similar to those alleged in the Florida Department of Health and Rehabilitative Services investigation (Watkins and Inman, Sept. 3, 1992). Dupont received 4 phone calls involving general symptoms of headache, fever, nausea, muscle pain or dizziness. A fifth call was received from a nursery employee reported

experiencing swelling of the knuckles, low energy level, and chest pressure. No information on exposure nor any medical documentation was supplied with any of these reports.

The remaining 11 reports were very nonspecific in nature and included concerns about lungs, colon cancer, reduced sperm count, symptoms from ingesting strawberries treated with benomyl and dizziness from fumes from growth media at a mushroom farm. Also there were 3 or perhaps more cases of dogs that vomited after accidental ingestion of benomyl.

2. October 1, 1992 letter to Douglas Campt from Rick Holt

Attachment B to this letter contains all the health allegations reported to Dupont since the letter submitted in March 1992. There appear to be 20 independent cases of ill effects reported. Six of these reports were skin or eye irritation of the type that would normally be expected from exposure to benomyl. Eleven cases suggested chronic symptoms or problems similar to those reported by the Florida Department of Health and Rehabilitative Services, September 1992 investigation. Symptoms reported and dates when reported are listed below:

<u>date</u>	<u>symptoms reported</u>
6/9/92	tired muscles and joints
4/11/92	queasiness
7/14/92	shortness of breath
7/15/92	dizziness, light headedness, and vision problems since 12/91
7/15/92	sinus problems, nasal congestion, and "other
aches	and pains this summer"
9/10/92	headache, joint pain, bone aches, malaise, and ulcerations of mouth
9/29/92	Wife reported fatigue, dizziness, and depression. Husband reports aches all over and insomnia.
9/24/92	3 employees called with problems: 1. bronchitis, congestion and cough in mornings 2. runny eyes, itching, sneezing, headaches, and shortness of breath. 3. employee has a 3 month old with respiratory problems.

The remaining 3 cases involved symptoms not reported in the Florida investigation or likely due to other causes than benomyl:

1. Respiratory problem reported, exposed to ammonia and chlorox.
2. Fatigue, falls asleep easily, treated for hypothyroidism.
3. Vertigo experienced on two separate occasions while working.

### 3. November 4, 1992 letter to Douglas Campt from Rick Holt

This letter includes two attachments A and B which relate to reported health effects alleged from benomyl exposure. Attachment A contains 4 additional phone calls received since the October 1 letter. These 4 calls are summarized below:

<u>date</u>	<u>symptoms reported</u>
10/1/92	joint pain and respiratory problems
10/7/92	2 girls working parttime in greenhouse develop rash, then hives
10/10/92	person ingests 4 chemicals when siphoning by mouth including benomyl-dry mouth, light headed, vomiting.
10/12/92	Caller reports greenhouse workers have symptoms like those reported in newspaper, no specifics.

Attachment B contains copies of information that Dupont received when preparing their letter to Susan Lewis dated March 9, 1992. All of this information has been reviewed and does not add to the summary information presented above.

### 4. Law suit against Dupont, case no. CL 92-11691 AE

This law suit alleges that a pesticide technician was exposed to Benlate 50 DF and suffers from several nonspecific complaints including: pain and suffering, fear of cancer, permanent injury, loss of capacity for the enjoyment of life, loss of memory and other damaged mental functions, mental anguish and emotional distress, increased sensitization to odors, and inability to tolerate certain foods and odors.

### 5. Class action law suit against Dupont and others from Puerto Rico

A class action law suit was filed in Puerto Rico on November the 18th, 1992. Twenty-four people who worked or lived near where Benlate DF 50 was used have specified their particular health complaints as itemized below.

#### Leading Symptoms reported in Puerto Rico law suit

<u>No.</u>	<u>Symptoms</u>	<u>Paragraph no. in law suit</u>
14	Numbness or pain in the extremities	6,8-14,16,18,22,23,27
10	Pain in joints	4,10,11,12,14,16,19,22-24
9	Headaches-severe/frequent	6,7,10,11,17,21,22,24,27
8	Unusual fatigue/tiredness	4,6,11,17,19,22,23,25
6	Muscular cramps/spasms	5,9,13,15,21,27
5	Muscle weakness	6,11,17,19,25
12	Chest pains	4,6,9-

11,13,14,16,19,21,22,27		
10	Difficulty breathing	6,8,9,15,16,20,21,23,25,27
7	Asthma or asthmatic symptoms	5,6,8,12,13,17,23
11	Boils/welts on body	
	5,6,8,10,11,12,14,16,18,22,26	
11	Eye irritation/pain/burning	
	4,7,9,10,12,17,21,22,24,25,27	
2	- Eye conjunctivitis/operated on	6,15
3	- Blurred vision	9,11,16
7	Excessive sweating/offensive odor	4,5,6,10,19,23,27
7	Itching over body/rashes	4,6,20,21,22,26,27
7	Dry skin/peeling/scaly(hands)	4,8,9,23,25,26,27
10	Mood swings	4,5,6,9,13,22,23,24,25,27
5	Loss of memory	4,9,17,25,27
6	Intolerance of alcohol	4,7,8,16,25,27
8	Gums bleeding/inflamed/boils	4,9,12,16,18,19,25,27
5	unusual bleeding	5,7,16,19,23
5	Diarrhea/GI disturbance	4,5,9,19,21

The information listed above for the Puerto Rico law suit is listed and compared with the information supplied in the report by the Florida Department of Health and Rehabilitative Services dated Sept. 3, 1992.

FLORIDA COMPLAINTS (N=67)

PUERTO RICO LAW SUIT (N=24)

headaches	63%	numbness/pain extremities
58%		
stiff/achy joints	49%	chest pains
50%		
shortness of breath	39%	boils/welts on body
46%		
fatigue	33%	eye irritation/burning
46%		
rashes	30%	pain in joints
42%		
swollen joints	27%	difficulty breathing
42%		
sore/irritated throat	27%	mood swings
42%		
nausea	27%	headaches
38%		
dizziness	25%	fatigue/tiredness
33%		
numb/tingling extremities	23%	gums bleeding/inflamed
33%		
short term memory loss	20%	asthma or asthmatic symptoms

29%		
nose bleeds	20%	excessive sweating/odor
29%		
		rashes/itching
29%		
		dry skin/peeling
29%		
		muscular cramps/spasms
25%		
		intolerance of alcohol
25%		
		muscle weakness
21%		
		loss of memory
21%		
		unusual bleeding
21%		
		diarrhea/GI disturbance
21%		

cc: chemical file  
circulation  
Correspondence  
Susan Lewis (H7505C)  
Kerry Deerfield (h7509C)  
Edward Hoekstra, M.D. (NIOSH)  
Susan Watkins (Florida HRS)